

PACIFIC RIM ENVIRONMENTAL, INC.

April 15, 2004

Elan Hazan

Ariel Development Inc.
3100 Airport Way South
Seattle, WA 98134

RE: Limited Asbestos Sampling

3100 Airport Way South, Seattle, WA 98134

Dear Mr. Hazan:

On April 9, 2004, Jeff Lewis of Pacific Rim Environmental, Inc. (PRE) performed limited sampling as directed by Ariel Development, in various locations throughout the facility located at 3100 Airport Way South, Seattle, WA 98134. Mr. Lewis is an AHERA accredited building inspector, and PRE's asbestos analytical laboratory is accredited by the National Voluntary Laboratory Accreditation Program (See Attachments).

Enclosed are the Bulk Sample Analysis Report, the Asbestos Sample Summary, and the Inspector Certification.

If you have any questions regarding this inspection, please do not hesitate to contact our office at (206) 244-8965.

Thank you

Jeff Lewis,

President/AHERA Building Inspector Pacific Rim Environmental, Inc.

BULK SAMPLE ANALYSIS REPORT



PACIFIC RIM ENVIRONMENTAL, INC.

ANCHORAGE

BULK SAMPLE ANALYSIS REPORT

CLIENT: Ariel Development

3100 Airport Way South

Seattle, WA 98134

Project: 3100 Airport Way South

Seattle, WA 98134

PRE #: 12983

Report #: 2004-04-100

Report Date: 04/15/04

Date Received: 04/09/04

Date Analyzed: 04/15/04

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Analyst: Fred Golloway

Attached are the results of analysis of 27 bulk samples submitted for asbestos identification: lab ID #2004-04-100 through 2004-04-126.

Samples were analyzed in accordance with method EPA-600/R-93/116: "Method for the Determination of Asbestos in Bulk Building Materials".

Unless otherwise noted, samples were inhomogeneous; subsamples of components were analyzed to achieve representative analysis. Separate layers of layered samples are analyzed and reported separately. Unless otherwise stated, asbestos content was quantified by calibrated visual estimation (CVES). CVES concentrations are reported in 2 to 3 percent ranges for fiber concentrations ranging from 1-10%, and 5 percent ranges for concentrations greater than 10%. Samples in which asbestos was not observed are reported as "none detected".

Limitations and Uncertainty:

Factors such as sample quality, sample size, interfering matrix material, fiber size, and fiber concentration contribute to the uncertainty of asbestos concentration measurements in bulk materials. Relative errors exceeding 100% may occur in samples containing <1-10% asbestos. Relative errors are typically below 30% in samples with greater than 10% asbestos, and approach zero as the asbestos concentration approaches 100%.

Asbestos fibers with diameters below approximately 0.25 micrometers are not detectable by PLM. These extremely fine fibers may occur in such products as floor tile, adhesives, and cement products. This limitation can be overcome, however, by the use of alternate analytical methods, such as Transmission Electron Microscopy (TEM).

This report cannot be represented by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Test results pertain only to the samples submitted for analysis.

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NVLAP Accredited LAB # 101631-0

Samples submitted by: P.R.E.

Reports reviewed by: 400000 Approved Signatory

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Corporate Office 6510 Southcenter Blvd., Ste. #4 Seattle, WA 98188 Phone: (206) 244-8965 Fax: (206) 244-9096

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Client/Lab Number	Sample Location and Description	Asbestos Type / %	Other Material	Date Analyzed
12983-01 2004-04-100	White-painted, white paper wrap with foil (layer 1) on brown foam	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (30-35%), Fiberglass (25-30%), Binder, Paint, Foil.	04/15/04
	insulation material (layer 2).	Layer 2 (Insulation): None Detected.	Layer 2: Cellulose (<1%), Foam.	
12983-02 2004-04-101	Light gray-white, chalky, fibrous insulation with woven wrap.	Amosite 5-7%.	Cellulose (5-7%), Binder.	04/15/04
12983-03 2004-04-102	Black tar with tarpaper (layer 1) on brown cork material (layer 2).	Layer 1 (Tar/tarpaper): None Detected	Layer 1: Cellulose (20-25%), Tar, Paint.	04/15/04
		Layer 2 (Cork): None Detected.	Layer 2: Cellulose (<1%), Cork.	
12983-04 2004-04-103	Brown paper material (layer 1), tarpaper (layer 2), and brown	Layer 1 (Brown paper): None Detected	Layer 1: Cellulose (75-80%), Binder, Adhesive.	04/15/04
	paper (layer 3).	Layer 2 (Tarpaper): None Detected	Layer 2: Cellulose (60-65%), Tar.	
		Layer 3 (Brown paper): None Detected.	Layer 3: Cellulose (75-80%), Binder, Adhesive.	
12983-05 2004-04-104	Light gray, chalky, fibrous insulation material.	Amosite 10-15%.	Binder.	04/15/04
12983-06 2004-04-105	White-painted light brown wrap	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (15-20%), Binder, Paint.	04/15/04
	(layer 1) on tarpaper (layer 2) and brown, fibrous insulation (layer 3).	Layer 2 (Tarpaper): Chrysotile 40-45%	Layer 2: Cellulose (1-3%), Tar.	
		Layer 3 (Insulation): None Detected.	Layer 3: Cellulose (85-90%), Binder.	

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12983-07 2004-04-106	Painted light brown, chalky material (layer 1) on clear to	Layer 1 (Chalky material): None Detected	Layer 1: Cellulose (<1%), Binder.	04/15/04
	black mastic (layer 2).	Layer 2 (Mastic): None Detected.	Layer 2: Cellulose (<1%), Adhesive.	
12983-08				04/15/04
2004-04-107	Gray cement material.	None Detected.	Cellulose (<1%), Mineral Aggregate, Binder.	
12983-09 2004-04-108	Insulation composed of red and	Layer 1 (Painted paper):	Layer 1: Cellulose (55-60%), Binder, Paint.	04/15/04
	white-painted brown paper (layer 1) on white paper (layer 2) on light gray-brown paper (layer 3-	None Detected Layer 2 (White paper):	Layer 2: Cellulose (1-3%), Binder.	
	layer 4).	Chrysotile 55-60%	Layer 3: Cellulose (70-75%),	
		Layer 3	Binder, Adhesive.	
		(Brown paper): None Detected	Layer 4: Cellulose (70-75%), Binder, Adhesive.	
		Layer 4		
		(Brown paper): None Detected.		
12983-10 2004-04-109	Insulation composed of white-	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (40-45%), Binder, Paint.	04/15/04
	painted white wrap (layer 1) on white paper with foil (layer 2) and brown foam (layer 3).	Layer 2 (Paper): None Detected	Layer 2: Cellulose (50-55%), Fiberglass (15-20%), Binder, Foil, Adhesive.	
,		Layer 3 (Foam): None Detected:	Layer 3: Cellulose (<1%), Foam.	
12983-11				04/15/04
2004-04-110	White, chalky, fibrous insulation.	Chrysotile 10-15%	Binder.	
	Note: Sample appears homogeneous.	Crocidolite 1-3%.		

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12983-12 2004-04-111	White-painted wrap (layer 1) on	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (40-45%), Binder, Paint.	04/15/04
	black glass foam material (layer 2).	Layer 2 (Foam): None Detected.	Layer 2: Cellulose (<1%), Glass Foam.	
12983-13				04/15/04
2004-04-112	Light gray to light brown, chalky, fibrous insulation material.	Chrysotile 5-7%.	Cellulose (<1%), Fibrous Glass (10-15%), Binder.	
12983-14 2004-04-113	White-painted white wrap (layer	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (45-50%), Binder, Paint.	04/15/04
	1) on white, chalky insulation (layer 2) on black glass foam (layer 3).	Layer 2 (White insulation):	Layer 2: Binder.	
	(1.3) 51. 5).	Amosite 3-5%	Layer 3: Glass Foam.	
		Layer 3 (Glass Foam): None Detected.		
12983-15 2004-04-114	Red foil covered, white-painted wrap on light gray, chalky, fibrous insulation.	Amosite 5-7%.	Cellulose (25-30%), Binder, Foil, Paint.	04/15/04
	Note: Wrap materials were heavily contaminated and could not be separated from the insulation.			
12983-16 2004-04-115	White-painted white wrap (layer 1) on brown paper with tar (layer	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (60-65%), Binder, Paint.	04/15/04
	2) on tar (layer 3).	Layer 2 (Paper with tar): None Detected	Layer 2: Cellulose (25-30%), Tar.	
		Layer 3 (Tar): None Detected.	Layer 3: Cellulose (<1%), Tar, Glass.	

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12983-17 2004-04-116	White-painted white wrap (layer 1) on white, chalky, fibrous	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (40-45%), Binder, Paint.	04/15/04
	insulation (layer 2).	Layer 2 (Insulation): None Detected.	Layer 2: Cellulose (5-7%), Synthetics (5-7%), Binder.	
12983-18 2004-04-117	Blue-painted, white wrap (layer 1) on white vinyl material (layer	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (40-45%), Binder, Paint.	04/15/04
	2) on brown foam (layer 3).	Layer 2 (Vinyl): None Detected	Layer 2: Vinyl, Adhesive.	
·		Layer 3 (Foam): None Detected.	Layer 3: Foam.	
12983-19 2004-04-118	Red-painted woven wrap material (layer 1) and brown	Layer 1 (Painted wrap): None Detected	Layer 1: Cellulose (60-65%), Binder, Paint.	04/15/04
	woven wrap (layer 2).	Layer 2 (Wrap): None Detected.	Layer 2: Cellulose (80-85%), Binder, Fine Particulate Material.	
12983-20 2004-04-119	White, chalky, fibrous insulation material.	Chrysotile 3-5% Amosite 10-15%.	Cellulose (<1%), Binder.	04/15/04
	Note: Sample appears homogeneous.	Amosite 10-13%.		
12983-21 2004-04-120	White, chalky insulation material.	Amosite 3-5%.	Binder.	04/15/04
12983-22 2004-04-121	White-painted woven wrap (layer	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (40-45%), Binder, Paint.	04/15/04
	n light gray, fibrous insulation (layer 2) and brown, fibrous material (layer 3).	Layer 2 (Insulation): Chrysotile 50-55%	Layer 2: Cellulose (1-3%), Binder.	
		Layer 3 (Insulation): None Detected.	Layer 3: Cellulose (<1%), Fibrous Glass (80-85%), Binder.	

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	12983-23 2004-04-122	Green-painted woven wrap (layer 1) on tar (layer 2).	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (55-60%), Binder, Paint.	04/15/04
		(lays) 1/ 51/ tal (lays) 2/.	Layer 2 (Tar): Chrysotile (3-5%)	Layer 2: Cellulose (<1%), Tar, Glass.	
			Amosite (1-3%).		
	12983-24 2004-04-123	White-painted woven wrap (layer 1) on white paper with foil (layer	Layer 1 (Wrap): None Detected	Layer 1: Cellulose (50-55%), Binder, Paint.	04/15/04
		2) on yellow foam (layer 3).	Layer 2 (Paper): None Detected	Layer 2: Cellulose (50-55%), Fiberglass (15-20%), Foil, Adhesive.	
			Layer 3 (Foam): None Detected.	Layer 3: Cellulose (<1%), Foam.	
	12983-25 2004-04-124	White-painted, woven material.	None Detected.	Cellulose (40-45%), Binder, Paint.	04/15/04
,	12983-26 2004-04-125	Light brown-white-painted tar (layer 1) on cork material (layer	Layer 1 (Tar): Chrysotile 1-3%	Layer 1: Cellulose (<1%), Tar, Paint.	04/15/04
		2).	Layer 2 (Cork): None Detected.	Layer 2: Cellulose (<1%), Cork.	
	12983-27 2004-04-126	Yellow-brown-painted, white, chalky, fibrous insulation.	Chrysotile 1-3% Amosite 7-10%.	Cellulose (<1%), Binder, Paint.	04/15/04

ASBESTOS SAMPLE SUMMARY

Asbestos Sample Summary

Project Name: Limited Asbestos Survey, 3100 Airport Way S., Seattle, WA

PRE Project ID: 12983.0000

Sample #	Sample Location	AHERA Category	Sample Description	Asbestos Type/Percentage	Material Quantity
01	Building #21	TSI	Pipe insulation (PI) coming through wall above door	Layer 1 (Wrap): None Detected, Layer 2 (Insulation): None	(Approximate)
02	D. W. W.	TO		Detected.	
02	Building #21	TSI	Pipe insulation inside wall	Amosite 5-7%.	
03	Building #21	TSI	Pipe insulation brown edge of wall	Layer 1 (Tar/Tarpaper): None Detected, Layer 2 (Cork): None Detected.	
04	Building #21	TSI	Pipe insulation going through floor lard diameter	Layer 1 (Brown paper): None Detected, Layer 2 (Tarpaper): None Detected, Layer 3 (Brown paper): None Detected.	
05	Building #21	TSI	Pipe insulation going through floor painted	Amosite 10-15%.	
06	Building #21	Miscellaneous	Putty around pipe collar under #04	Layer 1 (Wrap): None Detected, Layer 2 (Tarpaper): Chrysotile 40-45%, Layer 3 (Insulation): None Detected.	
07	Building #21	Miscellaneous	Mastic around pipe sleeve	Layer 1 (Chalky material): None Detected, Layer 2 (Mastic): None Detected.	
08	Building #25	Miscellaneous	Wall penetration	None Detected.	

Sample #	Sample Location	AHERA Category	Sample Description	Asbestos Type/Percentage	Material Quantity
					(Approximate)
09	Building #25	TSI	Stairwell pipe insulation	Layer 1 (Painted paper): None Detected, Layer 2 (White paper): Chrysotile 55-60%, Layer 3 (Brown paper): None Detected, Layer 4 (Brown paper): None Detected.	
10	Building #7	Miscellaneous	Large diameter pipe in stairwell	Layer 1 (Wrap): None Detected, Layer 2 (Paper): None Detected, Layer 3 (Foam): None Detected.	
11	Building #7	TSI	Pipe insulation on floor	Chrysotile 10-15%, Crocidolite 1-3%.	
12	Building #7	Miscellaneous	Canvas wrap on pipe	Layer 1 (Wrap): None Detected, Layer 2 (Foam): None Detected.	
13	Building #9	Miscellaneous	Pipe debris on floor	Chrysotile 5-7%.	
14	Building #9	Miscellaneous	Canvas wrap on pipe	Layer 1 (Wrap): None Detected, Layer 2 (White insulation): Amosite 3-5%, Layer 3 (Glass foam): None Detected.	
15	Building #9	TSI	Pipe insulation on wall by valve	Amosite 5-7%.	
16	Building #9	Miscellaneous	Canvas wrap on pipe	Layer 1 (Wrap): None Detected, Layer 2 (Paper with tar): None Detected, Layer 3 (Tar): None Detected.	
17	Building #9	TSI	Pipe insulation on wall	Layer 1 (Wrap): None Detected, Layer 2 (Insulation): None Detected.	

PRE	Project	ID:	12983.0000
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Sample #	Sample Location	AHERA Category	Sample Description	Asbestos Type/Percentage	Material Quantity
18	Building #9	Miscellaneous	Canvas wrap on pipe	Layer 1 (Wrap): None Detected, Layer 2 (Vinyl): None Detected, Layer 3 (Foam): None Detected.	(Approximate)
19	Building #9	Miscellaneous	Canvas wrap on pipe	Layer 1(Painted wrap): None Detected, Layer 2 (Wrap): None Detected.	
20	Building #9	TSI	Box insulation back in corner	Chrysotile 3-5%, Amosite 10- 15%.	
21	Building #9	Miscellaneous	Small diameter pipe in corner next to #20	Amosite 3-5%.	
22	Building #9	Miscellaneous	Canvas wrap on elbow along wall	Layer 1 (Wrap): None Detected, Layer 2 (Insulation): Chrysotile 50-55%, Layer 3 (Insulation): None Detected.	
23	Building #9	Miscellaneous	Canvas wrap green	Layer 1 (Wrap): None Detected, Layer 2 (Tar): Chrysotile 3-5, Amosite 1-3%.	
24	Building #9	Miscellaneous	White canvas wrap	Layer 1 (Wrap): None Detected, Layer 2 (Paper): None Detected, Layer 3 (Foam): None Detected.	
25	Building #5	Miscellaneous	White canvas on valve	None Detected.	
26	Building #5	TSI	Cork insulation with paint	Layer 1 (Tar): Chrysotile 1-3.%, Layer 2 (Cork): None Detected.	
27	Building #13	TSI	Pipe insulation inside wall	Chrysotile 1-3%, Amosite 7-10%.	

TECHNICIAN / LABORATORY CERTIFICATIONS



United States Department of Commerce National Institute of Standards and Technology



ISO/IEC 17025:1999 ISO 9002:1994

Certificate of Accreditation

PACIFIC RIM ENVIRONMENTAL, INC.

TUKWILA, WA

is recognized by the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria set forth in NIST Handbook 150:2001, all requirements of ISO/IEC 17025:1999, and relevant requirements of ISO 9002:1994. Accreditation is awarded for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

March 31, 2005

Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 101631-0